SLONAKER, J. R. 1902. The eye of the common mole, Scalopus aquaticus machrinus. J. Comp. Neur., 12:335-366.

———. 1920. Some morphological changes for adaptation in the mole. J. Morph., 34:335-363.

STALLCUP, W. B. 1956. A mole, Scalopus aquaticus, from Tarrant County, Texas. Field and Lab., Southern Methodist Univ., 24:104.

TRUE, F. W. 1896. A revision of American moles. Proc. U.S. Nat. Mus., 19:1-112.

WILKS, B. J. 1963. Some aspects of the ecology and population dynamics of the pocket gopher (*Geomys bursarius*) in southern Texas. Texas J. Sci., 15:241-283.

YATES, T. L., AND D. J. SCHMIDLY. 1975. Karyotype of the eastern mole (*Scalopus aquaticus*), with comments on the karyology of the family Talpidae. J. Mamm., 56:902-905.

Addresses of authors: T. L. YATES, *Department of Biological Sciences and The Museum, Texas Tech University, Lubbock, 79409*; D. J. SCHMIDLY, *Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, 77843.* *Received 12 April, accepted 21 September 1976.*

PUBLICATIONS OF THE MUSEUM TEXAS TECH UNIVERSITY

Two publications of The Museum of Texas Tech University are issued under the auspices of the Dean of The Graduate School and Director of Academic Publications, and in cooperation with the International Center for Arid and Semi-Arid Land Studies. Shorter research papers are published as Occasional Papers, whereas longer contributions appear as Special Publications. Both are numbered separately and published on an irregular basis.

Institutional libraries interested in exchanging publications may obtain the Occasional Papers and Special Publications by addressing the Exchange Librarian, Texas Tech University, Lubbock, Texas 79409. Individuals may purchase separate numbers of the Occasional Papers for 75 cents each through the Exchange Librarian. Remittance must be enclosed with request.

S-NM-Lubbock

OCCASIONAL PAPERS
THE MUSEUM
TEXAS TECH UNIVERSITY

NUMBER 46 17 JUNE 1977

MUS. COMP. ZOOL.
LIBRARY
JUN 23 1977
HARVARD
UNIVERSITY

BIRDS COLLECTED IN THE STATE OF HIDALGO, MEXICO

ALFRED D. BJELLAND AND JOHN C. RAY

The Mexican state of Hidalgo represents a relatively unknown area to the ornithologist. The avifauna of surrounding states has been studied extensively: Coahuila, by Amadon and Phillips (1947) and by Urban (1959); Veracruz, by Sutton and Burleigh (1940*d*) and by Lowery and Dalquest (1951); San Luis Potosí, by Sutton and Burleigh (1940*b*, 1940*c*); Distrito Federal, Puebla, and México, by Sutton and Burleigh (1942); Durango and Zacatecas, by Webster and Orr (1952); and Tamaulipas, by Webster (1974). Several books have been published on the birds of México (Blake, 1953; Sutton, 1957 and 1972; Edwards, 1972; Davis, 1972; and Peterson and Chalif, 1973), but these contain little information about species found in Hidalgo. A few reports of new species from Hidalgo are to be found in the literature (Sutton and Burleigh, 1940*a*; Moore, 1941 and 1949; and Dickerman, 1963). Only one study dealing specifically with the birds of Hidalgo is available in the literature (Sutton and Burleigh, 1941). The most comprehensive information on the avifauna of Hidalgo is to be found in a *Distributional Check-List of the Birds of Mexico*, compiled by Friedmann *et al.* (1950) and Miller *et al.* (1957). Unfortunately, only the simple reference "Hidalgo" appears for many of the species in this list.

The state of Hidalgo is of interest ornithologically because of its location and vegetation. It lies on the northeastern edge of the Transverse Volcanic Province (Goldman and Moore, 1946), and supposedly is the province richest in bird life. Vegetative zones are diverse, ranging from arid grassland to cloud forest and lowland tropical rainforest.

Field investigations in the past have been confined to the western and southern portions of the state. Apparently, no previous studies

have included the northeastern part, due to the inaccessibility of this region, until recently.

In the late 1960's, an all-weather road was constructed connecting Huejutla in the northeast with Pachuca in the southeast in order to move rich manganese ore from the mines southwest of Tlanchinol to the port city of Tampico. This opened virgin lands by providing easy access into the mountainous area between Tehuetlan and Metzquititlan.

Field investigations were initiated in the summer of 1972 when a field party from Texas Tech University, led by Dilford C. Carter, visited northeast Hidalgo. Carter was accompanied by six students enrolled in a summer field course in the Department of Biological Sciences. The senior author joined this group for one week while they were collecting in the vicinity of Tlanchinol. In the summer of 1973, Carter again led a summer field course to this area. The senior author spent three weeks on this expedition and approximately, 200 birds were collected. During the summer of 1974, the senior author and four students studied the avifauna of the areas around Tlanchinol and Calnali. About 200 specimens were collected, mainly in localities adjacent to Mexican highway 105, from Huejutla to Metzquititlan. The most intensive effort was concentrated just to the east of Tlanchinol, an area of relatively undisturbed rainforest. The following is a list of areas collected and a brief description of each (see Fig. 1).

San Felipe, Orizatlan.—The area north of Orizatlan is primarily dense, broad-leaf tropical forest. Near Orizatlan, this tropical forest gives way to heavily cultivated fields of corn and cane, banana groves, and pasture lands. Few birds were collected here.

Tehuetlan.—To the north, between Tehuetlan and Huejutla, the area is heavily cultivated with limes, avocados, coffee, corn and pasture land. Some areas of dense shrubbery are intermixed with the cultivated lands. Just southwest of Tehuetlan, the land becomes hilly and rapidly ascends into the cloud forest. In this habitat, *Liquidambar* and various oaks predominate, bromeliads and other epiphytes are numerous, and there is a heavy understory of tree ferns. During the rainy season, from May to September, there are many small flowing streams that are temporary in nature and cease to run on those rare occasions when it does not rain for a week or more. Days are typically sunny but are interrupted by dense fog and brief rainstorms, most rains beginning around four or five in the afternoon.

Tlanchinol.—This small mountain village lies at the upper reaches of the cloud forest. Southwest of Tlanchinol, the cloud forest rapidly gives way to pine-oak forest; northeast of the village lies a relatively virgin forest with some large tracts of giant *Liquidambar* and oaks

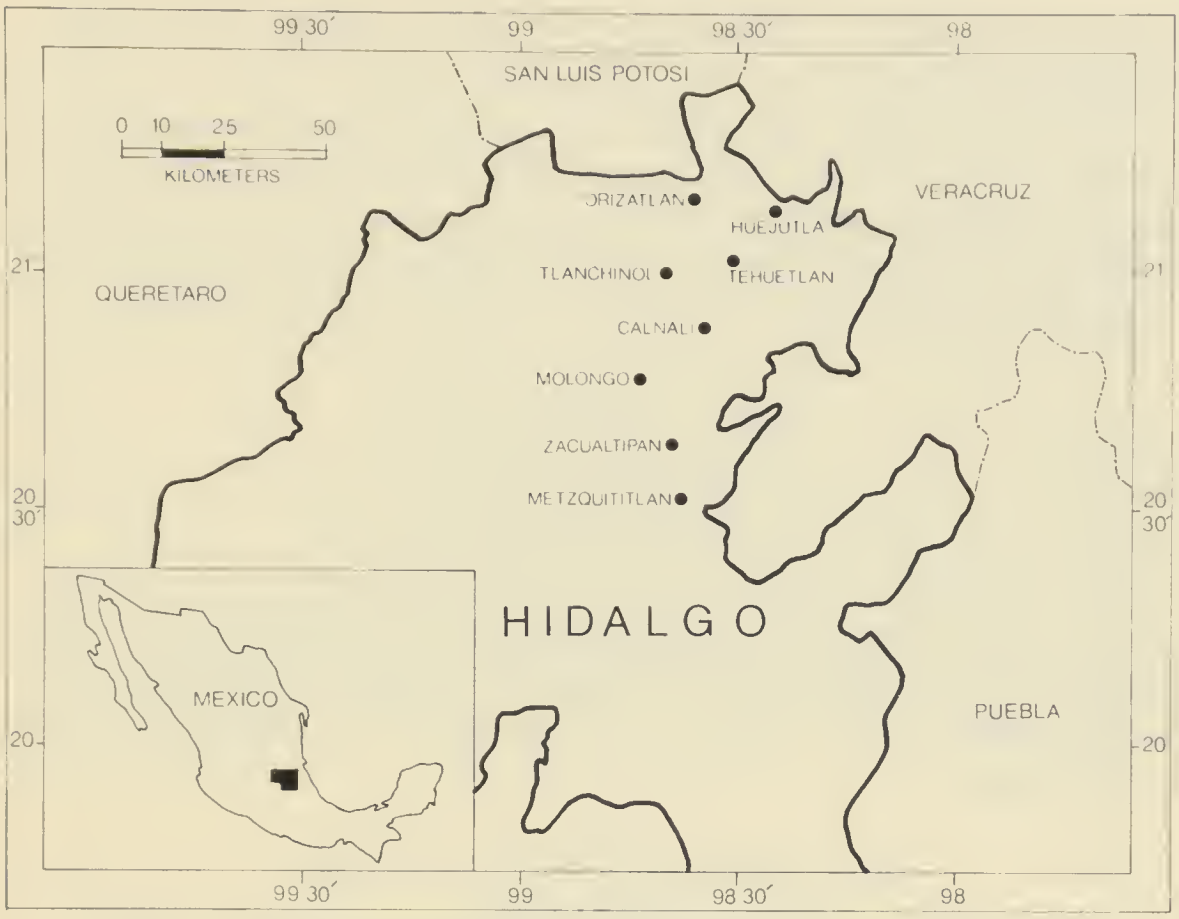

Fig. 1.—Map of Hidalgo showing place-names mentioned in text.

and an understory of large tree ferns. Unfortunately, these virgin expanses are being destroyed rapidly as the land is logged and burned for pasture. Many species of birds were found only in these virgin stands of forest and for several species, this area is apparently the northern limit of their range.

Calnali.—This small village is situated in a tropical valley surrounded by high mountains. A hilly terrain with steep wooded slopes gives way to cleared pasture land and coffee plantations on more level ground. The flora and fauna are similar in most respects to that found north of Tehuetlan. However, the area surrounding Calnali is less densely populated and its remoteness from modern civilization has protected the native plants and animals to a large extent. Although many of the same species of birds were collected at the two localities, additional species were found at Calnali that probably no longer occur at Tehuetlan.

Zacualtipan.—The area near Zacualtipan is mountainous with high cliffs and deep, broad valleys. Forests here are pine-oak with almost pure stands of ponderosa pine at higher elevations. To the south, the land begins to flatten and is cultivated extensively.

Metzquititlan.—Grasslands and cultivated fields are replaced by a "green" desert to the south, where the land becomes hilly and is cut by deep washes. The vegetation is typically desert (with organ

pipe, prickly pear, and numerous other cacti), but the cacti are large, tree-like, and lush.

Of the 124 species reported on here, 40 have not been recorded previously for the state of Hidalgo. These are indicated in the species accounts with an asterisk. Approximately, 10 per cent of the specimens collected were forwarded to México City after being cataloged. The remainder were deposited at The Museum, Texas Tech University.

For convenience, the nomenclature employed follows Peterson and Chalif (1973). Subspecific designations were assigned by range as determined from Friedmann *et al.* (1950) and Miller *et al.* (1957). Where the possibility exists for two or more subspecies occurring in northeast Hidalgo it is so noted in the species account.

The term juvenile is used to indicate birds that have not yet attained adult size and have not yet developed their first full plumage of contour feathers. The term immature is applied to those birds that have attained adult size and are fully feathered but have a recognizable subadult plumage.

ANNOTATED LIST OF SPECIES

Family Accipitridae

Buteo nitidus plagiatus (Schlegel)
Gray Hawk

Specimen examined (1).—10 km. WSW Tehuetlan, 1200 m., 27 July 1973, 1♂.

This was the only Gray Hawk seen; they may be an uncommon resident in the more open country in eastern Hidalgo.

Buteo magnirostris griseocauda (Ridgway)*
Roadside Hawk

Specimen examined (1).—6.1 km. S Tehuetlan, 850 m., 24 July 1973, 1♀.

The Roadside Hawk is a resident of lowland tropical areas of the surrounding states of San Luis Potosí and Veracruz. This specimen apparently was killed by local residents and was found hanging on a fence, still quite fresh.

Family Falconidae

Micrastur ruficollis guerilla Cassin*
Barred Forest-Falcon

Specimens examined (2).—25 km. WSW Tehuetlan 1500 m., 12 July 1972, 1♀; 1.5 km. N, 3 km. E Tlanchinol 1500 m., 2 August 1974, 1♂.

Barred Forest-Falcons were very secretive and seldom seen, but often were heard calling in the cloud forest northeast of Tlanchinol. One responded to our squeaking and flew into a low tree within 3 m. We often suspected that the large holes torn in our mist nets were due to this species responding to the squeals of other birds caught in them. Although this species is reported from the adjacent states of Veracruz and Puebla, this is the northernmost record for the species.

Family Columbidae

Columba fasciata fasciata Say
Band-tailed Pigeon

Specimens examined (2).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 30 July 1973, 1♂; 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 2 August 1974, 1♀.

Band-tailed Pigeons were occasionally seen flying over at these localities; however, they were more numerous at higher elevations in the pine-oak forest.

Scardafella inca (Lesson)
Inca Dove

Specimens examined (2).—7 km. S Zacualtipan, 1750 m., 12 August 1973, 1♂; 9 km. S, 2 km. W Metzquititlan, 1650 m., 4 August 1973, 1♂.

The Inca Dove is fairly common in the higher plateau region both in desert and open agricultural areas.

Columbina passerina pallescens (Linnaeus)
Common Ground-Dove

Specimens examined (3).—8.8 km. S Metzquititlan, 1500 m., 20-21 July 1972, 2 (in alcohol); 9 km. S, 2 km. W Metzquititlan, 1650 m., 4 August 1974, 1♂.

The bird is fairly common in the plateau region, especially in undeveloped desert areas.

Claravis pretiosa (Fevrari-Parez)*
Blue Ground-Dove

Specimens examined (2).—1.5 km. N Tlanchinol, 1600 m., 29 July 1973, 1♂, 1♀.

This pair of Blue Ground-Doves represented the only sighting of this bird. They were in a small grove of trees left after a recent clearing of the hillside.

Leptotila verreauxi angelica Bangs and Penard
White-tipped Dove

Specimen examined (1).—10 km. WSW Tehuetlan, 1200 m., 13 July 1972, 1 (sex not determined).

This was the only member of this species identified with certainty although several other doves seen may have been White-tipped Doves.

Geotrygon albifacies albifacies (Sclater)*
White-faced Quail-Dove

Specimen examined (1).—1.5 km. N Tlanchinol, 1600 m., 29 July 1973, 1♂.

Only one White-faced Quail-Dove was identified. Because it is quite secretive, it could be more abundant than is indicated here.

Family Psittacidae

Pionus senilis senilis (Spix)*
White-crowned Parrot

Specimen examined (1).—2 km. S, 10 km. W Tehuetlan, 1200 m., 2 August 1973, 1♂.

A number of parrots were seen at this locality, as well as near Tlanchinol and Calnali. All parrots positively identified were of this species though many flew too high for easy identification. The White-crowned Parrot has been reported for the surrounding states of San Luis Potosí and Veracruz.

Family Cuculidae

Crotophaga sulcirostris sulcirostris Swainson*
Groove-billed Ani

Specimens examined (8).—4 km. E San Felipe, Orizatlan, 500 m., 4-6 July 1972, 2 (in alcohol); 2 km. N Tehuetlan, 850 m., 24 July 1973, 1♂; 3 km. N, 1 km. E Tehuetlan, 850 m., 26 July 1973, 1♂; 1 km. S, 2.5 km. E Calnali, 980 m., 7-9 August 1974, 1♂, 3♀.

The Groove-billed Ani is common in the lowlands, particularly around citrus, coffee, and banana groves. There were many juveniles present, as well as young still on the nest at the Calnali locality. This bird has been reported from all surrounding states.

Family Strigidae

Glaucidium brazilianum ridgwayi Sharpe*
Ferruginous Pygmy-Owl

Specimen examined (1).—1 km. S, 2.5 km. E Calnali, 980 m., 10 August 1975, 1♂.

This pygmy-owl was the only owl collected, although another owl, probably *Bubo virginiana*, was heard at this locality. This specimen was taken in a net near a small stream approximately 4.5 m. above the ground at around 0800. This species has been recorded from the neighboring states of San Luis Potosí, México, Puebla, and Veracruz.

Family Caprimulgidae

Nyctidromus albicollis (Gmelin)*
Parauque

Specimen examined (1).—4 km. E San Felipe, Orizatlan, 500 m., 6 July 1972, 1 (in alcohol).

Only one specimen of this species was seen. It has been reported from Tamaulipas, Veracruz, and Puebla. Northeast Hidalgo is within the possible range of both *N. a. yucatanensis* and *N. a. merrilli*.

Family Apodidae

Aëronautes saxatalis saxatalis (Woodhouse)
White-throated Swift

Specimen examined (1).—11 km. S, 1 km. W Zacualtipan, 1980 m., 14 August 1973, 1♀.

White-throated Swifts were common around high mountain cliffs south of Zacualtipan.

Family Trochilidae

Campylopterus curvipennis curvipennis (Lichtenstein)*
Wedge-tailed Sabrewing

Specimens examined (13).—3 km. N, 1 km. E Tehuetlan, 850 m., 26 July 1973, 3 August 1974, 1♂, 2♀; 5 km. WSW Tehuetlan, 850 m., 13 July 1972, 1♂; 2 km. S, 10 km. W Tehuetlan, 1200 m., 13 July 1972, 22-30 July 1973, 1♂, 4♀; 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 2 August 1974, 1♂, 1♀; 1 km. S, 2.5 km. E Calnali, 980 m., 9 August 1974, 2♀.

The Wedge-tailed Sabrewing is the most common hummingbird in the lowland tropical and cloud forest regions. In mid-July 1972 and 1973, several active nests of this species were found 2 km. S, 10 km. W Tehuetlan. Nests were in small trees 2 to 3 meters from the ground. This species has been reported as a common breeding bird from surrounding states of San Luis Potosí, Veracruz, and Puebla.

Cyanthus latirostris latirostris Swainson
Broad-billed Hummingbird

Specimens examined (2).—11 km. S, 1 km. W Zacualtipan, 1980 m., 11 and 14 July 1973, 2 (sex not determined).

These two specimens, collected in open pine woodlands, were the only ones of this species seen.

Hylocharis leucotis leucotis (Vieillot)
White-eared Hummingbird

Specimens examined (5).—7 km. S Zacualtipan, 1750 m., 5-14 August 1975, 4♂, 1♀.

The White-eared Hummingbird was common in the open pine woodlands, usually seen low to the ground feeding on a red flowered *Lobelia* that grew in clumps at this locality.

Amazilia candida candida (Bourcier and Mulsant)*
White-bellied Emerald

Specimens examined (2).—10 km. WSW Tehuetlan, 1200 m., 12 July 1972, 1 (sex not determined); 1 km. S, 2.5 km. E Calnali, 980 m., 11 August 1974, 1 (sex not determined).

This species is reported as common in the surrounding states of San Luis Potosí, Veracruz, and Puebla. However, the two specimens above were the only ones seen and the species appears to be quite rare in eastern Hidalgo.

Amazilia cyanocephala cyanocephala (Lesson)*
Red-billed Azurecrown

Specimens examined (5).—2 km. S, 10 km. W Tehuetlan, 1200 m., 22-25 July 1973, 2 (sex not determined); 1 km. N, 2 km. W Calnali, 980 m., 11 August 1974, 3 (sex not determined).

This species was found only at the Tehuetlan and Calnali localities. At the Tehuetlan locality, it appeared to be uncommon as opposed to the Wedge-tailed Sabrewing, which was abundant. However, at Calnali the Red-billed Azurecrown seemed to be the most common hummingbird.

Amazilia yucatanensis (Cabot)*
Fawn-breasted Hummingbird

Specimens examined (2).—3 km. N, 1 km. E Tehuetlan, 850 m., 26 July 1973, 1 (sex not determined); 1 km. N, 2 km. W Calnali, 980 m., 11 August 1974, 1♂.

These two specimens were the only Fawn-breasted Hummingbirds seen. Two subspecies have been listed for surrounding states: *A. y. chalconata* breeds in San Luis Potosí and northeastern Veracruz; *A. y. cerviniventris* is reported from Veracruz and Puebla. Intergrades between the two subspecies have been reported from San Luis Potosí and northern Veracruz, and it is possible that Hidalgo may also be an area of intergradation.

Lampornis clemenciae clemenciae (Lesson)
Blue-throated Hummingbird

Specimens examined (2).—17 km. N Metzquititlan, 1750 m., 16 July 1972, 1 (in alcohol); 10 km. N Metzquititlan, 1750 m., 16 July 1972, 1♀.

This large hummingbird was found only in the pine forest region of high elevations.

Lampornis amethystinus amethystinus Swainson
Amethyst-throated Hummingbird

Specimens examined (5).—1.5 km. N, 1 km. E Tlanchinol, 1600 m., 12 July 1972, 29 July 1973, and 1 August 1974, 3♂, 1♀; 5 km. S Zacualtipan, 1980 m., 15 August 1973, 1♂.

The Amethyst-throated Hummingbird was reported as a "rather rare breeder" of eastern México (Friedmann *et al.*, 1950). At the locality near Tlanchinol, this species was abundant in the open, partially cleared forest. It was found at only one other locality, near Zacualtipan, where a single specimen was collected 15 August 1973.

Eugenes fulgens fulgens Boucard
Magnificent Hummingbird

Specimens examined (8).—10 km. N Metzquititlan, 1750 m., 19 July 1972, 1♂; 7 km. S Zacualtipan, 1750 m., 11-17 August 1973, 4♂, 1♀; 11 km. S, 1 km. W Zacualtipan, 1980 m., 14 August 1973, 1♂, 1♀.

This large hummingbird was found only in the high pine-oak forest region south of Zacualtipan where it was quite common.

Calothorax lucifer (Swainson)*
Lucifer Hummingbird

Specimen examined (1).—11 km. S, 1 km. W Zacualtipan, 1980 m., 14 August 1973, 1♂.

This tiny hummingbird is probably more common than the single record would indicate.

Archilochus colubris (Linnaeus)
Ruby-throated Hummingbird

Specimen examined (1).—7 km. N Zacualtipan, 2000 m., 17 August 1973, 1♀.

The Ruby-throated Hummingbird is not known to breed in México and this specimen probably represents an early migrant or a non-breeding bird.

Family Trogonidae

Trogon mexicanus mexicanus Swainson
Mountain Trogon

Specimens examined (4).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 13 July 1972, 2 August 1974, 2♂; 3 km. E Zacualtipan, 2100 m., 16 August 1973, 1♂, 1♀.

The Mountain Trogon appeared to be common in the more remote mountain areas. It was most numerous in the cloud forest but was also found in pine-oak stands at higher altitudes.

Trogon elegans ambiguus Gould
Elegant Trogon

Specimen examined (1).—3 km. N, 1 km. E Tehuetlan, 850 m., 27 July 1973, 1♂.

Only one specimen of the species was sighted; all other trogons seen at higher elevations were Mountain Trogons. It is possible that the Elegant Trogon is confined to the lowlands in the eastern part of Hidalgo. Sutton and Burleigh (1941) found this species up to 7000 feet in the drier western part of the state.

Family Alcedinidae

Chloroceryle americana septentrionalis (Sharpe)*
Green Kingfisher

Specimens examined (2).—3 km. N, 1 km. E Tehuetlan, 850 m., 31 July 1973, 1♀, 11 km. S Zacualtipan, 1980 m., 19 August 1973, 1♀.

The Green Kingfisher appeared common along rivers and permanent ponds. It has been reported from all surrounding states.

Family Momotidae

Momotus momota coeruliceps (Gould)*
Blue-crowned Motmot

Specimens examined (4).—4 km. E San Felipe, Orizatlan, 500 m., 6 July 1972, 1 (in alcohol); 3 km. N, 1 km. E Tehuetlan, 850 m., 27 July 1973, 1♂; 1 km. S, 2.5 km. E Calnali, 980 m., 8-9 August 1974, 2♂.

Blue-crowned Motmots were seen regularly but were heard more often in the early morning hours in lowland tropical portions of eastern Hidalgo. This species has been reported from the adjacent states of San Luis Potosí, Puebla, and northern Veracruz.

Family Ramphastidae

Aulacorhynchus prasinus prasinus (Gould)
Emerald Toucanet

Specimens examined (2).—10 km. WSW Tehuetlan, 1200 m., 15 July 1972, 1♀; 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 31 July 1974, 1♂.

This species was found only in the cloud forest between Tehuetlan and Tlanchinol, where it was common. Normally, this species was found high in trees, but one was caught in a mist net about 2 m. above the ground.

Family Picidae

Piculus aeruginosus (Malherbe)*
Bronze-winged Woodpecker

Specimen examined (1).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 6 August 1974, 1♀.

Only one specimen (a highly colored female in fresh plumage) was seen. *P. aeruginosus* is probably conspecific with *P. rubiginosus*, which it closely resembles. Neither species has been recorded previously for the state of Hidalgo.

Melanerpes formicivorus formicivorus (Swainson)
Acorn Woodpecker

Specimens examined (12).—2 km. S, 10 km. W Tehuetlan, 1200 m., 13 July 1972, 1♂; 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 24-29 July 1973, 1 August 1974, 3♂, 3♀; 7 km. S Zacualtipan, 1750 m., 11 August 1973, 1♀; 1 km. S, 2.5 km. E Calnali, 980 m., 6 August 1974, 3♂, 1♀.

Acorn Woodpeckers were abundant at all localities except the lowlands north of Tehuetlan.

Centurus aurifrons aurifrons (Wagler)
Golden-fronted Woodpecker

Specimens examined (3).—3 km. N, 1 km. E Tehuetlan, 850 m., 31 July 1973, 1♂, 1♀; 8 km. S, 1 km. W Metzquititlan, 1650 m., 4 August 1973, 1♂.

The Golden-fronted Woodpecker was common in the relatively lowland tropical area around Tehuetlan where it was found in a

large coffee plantation. The species also was common in the high desert. All specimens were molting heavily, particularly on the head and breast.

Veniliornis fumigatus oleagineus (Reichenbach)*
Smoky-brown Woodpecker

Specimens examined (2).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 2 August 1974, 1♂; 1 km. S, 2.5 km. E Calnali, 980 m., 9 August 1974, 1♀.

The Smoky-brown Woodpecker usually was seen working tree trunks in the understory of mature forests, generally no more than 3 to 4 m. above ground. This species was recorded only once near Tlanchinol but was seen fairly frequently at Calnali.

Dendrocopos scalaris giraudi (Stone)
Ladder-backed Woodpecker

Specimen examined (1).—11 km. S, 1 km. W Zacualtipan, 1980 m., 15 August 1973, 1♀.

This species was noted commonly in the arid scrub and desert regions near Zacualtipan and Metzquititlan.

Family DENDROCOLAPTIDAE

Sittasomus griseicapillus sylvioides Lafresnaye
Olivaceous Woodcreeper

Specimens examined (3).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 29 July 1974, 1♂; 1 km. S, 2.5 km. E Calnali, 980 m., 7 August 1974, 2♂.

Recorded only once near Tlanchinol, this small woodcreeper appeared to be more common at the Calnali locality.

Xiphocolaptes promeropirhynchus sclateri Ridgway*
Strong-billed Woodcreeper

Specimens examined (2).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 4 August 1974, 1♂; 1 km. N, 2 km. E Tlanchinol, 1500 m., 29 July 1973, 1♀.

This species was noted only twice. One bird was heard calling and was finally located about 10 m. above the ground on a trunk of a very large *Liquidambar*. A Spotted Woodcreeper was so near it that both were collected with one shot.

Xiphorhynchus erythropygius erythropygius (Sclater)*
Spotted Woodcreeper

Specimens examined (2).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 3-4 August 1974, 1♂, 1♀.

Spotted Woodcreepers are probably uncommon residents in the higher cloud forests. In addition to these two specimens, one other sight record was made. This species is secretive (as are most woodcreepers), difficult to observe, and may be more common than our records indicate.

Lepidocolaptes affinis affinis (Lafresnaye)
Spot-crowned Woodcreeper

Specimens examined (4).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 1 August 1973, 5 August 1974, 3♂; 1 km. N, 2 km. W Calnali, 980 m., 11 August 1974, 1 (sex not determined).

The Spot-crowned Woodcreeper was the most common dendrocolaptid found at Tlanchinol but was seen only once at Calnali. The Calnali specimen is noticeably darker and the breast spots, which give the streaked appearance, are considerably smaller.

Family Furnariidae

Sclerurus mexicanus mexicanus Sclater*
Tawny-throated Leafscraper

Specimen examined (1).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 31 July 1974, 1♂.

This specimen represents our only record of the Tawny-throated Leafscraper and the northernmost locality for the species. It was caught in a mist net set in the open understory of a mature cloud forest. The net was checked at dusk and was empty but was left open to catch bats. Apparently, the bird was caught just as darkness set in. This species has been recorded for Chiapas, Puebla, and Veracruz.

Family Cotingidae

Platypsaris aglaiae gravis van Rossem*
Rose-throated Becard

Specimen examined (1).—3 km. N, 1 km. E Tehuetlan, 850 m., 31 July 1973, 1♂ (immature).

This was the only record of the species. It has been recorded from all surrounding states.

Family Tyrannidae

Sayornis nigricans nigricans (Swainson)
Black Phoebe

Specimens examined (2).—1 km. S Molongo, 1750 m., 17 July 1972, 1 (in alcohol); 7 km. S Zacualtipan, 1750 m., 10 August 1973, 1♀.

This species was common in the high pine-oak forest region along streams.

Pyrocephalus rubinus mexicanus Sclater
Vermilion Flycatcher

Specimens examined (3).—11 km. S Zacualtipan, 1980 m., 18 August 1973, 1♀; 6 km. S Metzquititlan 1600 m., 4 August 1973, 1♀; 9 km. S, 2 km. W Metzquititlan, 1650 m., 4 August 1973, 1♂.

This species was common in the high desert south of Metzquititlan and was abundant in the open grasslands and cultivated areas west of Pachuca.

Tyrannus melancholicus couchii Baird
Tropical Kingbird

Specimen examined (1).—4 km. S Huejutla, 600 m., 1 August 1973, 1♀.

This was the only time this species was seen.

Myiodynastes luteiventris luteiventris Sclater
Sulphur-bellied Flycatcher

Specimens examined (3).—1 km. S, 2.5 km. E Calnali, 980 m., 7-11 August 1974, 2♂, 1♀.

The Sulphur-bellied Flycatcher was common near Calnali and was recorded also at 2 km. S, 10 km. W Tehuetlan, 1200 m. but was not collected. This species has been recorded previously for all surrounding states.

Megarhynchus pitangua mexicanus (Lafresnaye)*
Boat-billed Flycatcher

Specimens examined (5).—3 km. N, 1 km. E Tehuetlan, 850 m., 26 July-1 August 1973, 4♀; 1 km. S, 2.5 km. E Calnali, 980 m., 7 August 1974, 1 (in alcohol).

The Boat-billed Flycatcher was common at Tehuetlan and Calnali and in both cases was associated with the Great Kiskadee.

Myiozetetes similis texensis (Giraud)*
Social Flycatcher

Specimens examined (3).—1 km. S, 2.5 km. E Calnali, 980 m., 7 August 1974, 2♂, 1♀.

This species was found only at Calnali where it was quite common. One pair (not collected) was nesting in a tall tree near a stream,

approximately 6 m. above the ground. Social Flycatchers have been reported from the surrounding states of San Luis Potosí, Veracruz, and Puebla.

Pitangus sulphuratus derbianus (Kaup)*
Great Kiskadee

Specimens examined (4).—3 km. N, 1 km. E Tehuetlan, 850 m., 12 July 1972, 26-27 July 1973, 1♂, 2♀; 1 km. S, 2.5 km. E Calnali, 980 m., 8 August 1974, 1♀.

The Great Kiskadee was found only at Tehuetlan and Calnali, where it was common along streams and in and around coffee plantations. The Great Kiskadee has been recorded as a resident species in all surrounding states.

Myiarchus tuberculifer lawrencei (Giraud)
Dusky-capped Flycatcher

Specimen examined (1).—2 km. S, 10 km. W Tehuetlan, 1200 m., 27 July 1973, 1 (sex not determined).

This was the only definite sighting of the species.

Contopus pertinax pertinax Cabanis and Heine
Greater Pewee

Specimens examined (5).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 30 July 1974, 1♂; 1 km. S, 2.5 km. E Calnali, 980 m., 7 August 1974, 1♂; 7 km. S Zacualtipan, 1750 m., 3-10 August 1973, 3♂.

This species was common in the pine forests near Zacualtipan; however, it was noted only once at Tlanchinol and Calnali.

Empidinax sp.

There has been little agreement on identification of eleven *Empidinax* flycatchers collected in Hidalgo. Further study is needed before these are reported on.

Mitrephanes phaeocercus hidalgensis Sutton and Burleigh
Tufted Flycatcher

Specimen examined (1).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 5 August 1974, 1♂.

This specimen was collected at the edge of a clearing where virgin cloud forest had been clear cut. The species was not observed on any other occasion.

Camptostoma imberbe imberbe Sclater
Northern Beardless Tyrannulet

Specimen examined (1).—11 km. S, 1 km. W Zacualtipan, 1980 m., 15 August 1973, 1♂.

This species was noted only once south of Zacualtipan.

Family Hirudinidae

Hirundo rustica erythrogaster Boddaert
Barn Swallow

Specimens examined (2).—Tlanchinol, 1600 m., 31 July and 1 August 1974, 2 (juvenile).

This species nests under eaves and in open buildings in the village of Tlanchinol.

Family Corvidae

Cyanocorax yncas luxuosa (Lesson)
Green Jay

Specimens examined (5).—3 km. N, 1 km. E Tehuetlan, 850 m., 28-31 July 1973, 1♂, 1♀; 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 12 July 1972, 1 August 1974, 2♂; 1 km. S, 2.5 km. E Calnali, 980 m., 6 August 1974, 1♂.

The Green Jay was fairly common up to 1500 m. but was most abundant below 1000 m., especially in coffee plantations at Tehuetlan and Calnali.

Aphelocoma ultramarina sordida (Swainson)
Gray-breasted Jay

Specimens examined (5).—7 km. S Zacualtipan, 1750 m., 16-17 July 1972, 6-13 August 1973, 3♂, 2♀.

This species was common in the pine-oak and pine forests near Zacualtipan.

Aphelocoma unicolor concolor (Cassin)
Unicolored Jay

Specimens examined (3).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 13 July 1972, 4 August 1974, 1♂, 1♀, 1 (sex not determined).

The Unicolored Jay appeared to be uncommon but was regularly seen in the mountains near Tlanchinol, in relatively undisturbed cloud forest. Previously reported from the states of México, Pueblo, and Veracruz, the above locality represents the northernmost record for this species.

Psilorhinus morio fuliginosus (Lesson)
Brown Jay

Specimens examined (2).—0.5 km. N Calnali, 950 m., 10 August 1974, 1♀; 1 km. S, 2.5 km. E Calnali, 980 m., 12 August 1974, 1♂ (immature).

The Brown Jay was found only at Calnali, where it was seen regularly in open woodlands.

Family Paridae

Parus atricristatus atricristatus Cassin
Black-crested Titmouse

Specimens examined (2).—1 km. S, 2.5 km. E Calnali, 980 m., 10-12 August 1974, 1♀, 1 (in alcohol).

The Black-crested Titmouse was found only at Calnali in open, oak woodland.

Auriparus flaviceps ornatus (Lawrence)
Verdin

Specimens examined (2).—6 km. S Metzquititlan, 1600 m., 5-6 August 1973, 1♂, 1♀.

Verdins were common in the desert areas south of Metzquititlan.

Family Certhiidae

Certhia familiaris alticola G. S. Miller
Brown Creeper

Specimen examined (1).—7 km. S Zacualtipan, 1750 m., 6 August 1973, 1♂.

We obtained only this record of the species.

Family Troglodytidae

Campylorhynchus gularis Sclater
Spotted Wren

Specimen examined (1).—5 km. S Zacualtipan, 1800 m., 10 August 1973, 1♂.

This specimen represents the only sighting of a Spotted Wren.

Thryothorus maculipectus Lafresnaye*
Spot-breasted Wren

Specimens examined (6).—4 km. E San Felipe, Orizatlan, 500 m., 6 July 1972, 1 (in alcohol); 3 km. N, 1 km. E Tehuetlan, 850 m., 26 July 1973, 1♂; 2 km. S, 10 km. W Tehuetlan, 1200 m., 26-29 July 1973, 2♂; 1 km. N, 2 km. W Calnali, 980 m., 11 August 1974, 2♂.

The presence of this species usually was indicated by its scolding call from dense brush; actual sightings were infrequent. Spot-breasted Wrens occur throughout the more humid portions of eastern Hidalgo from 500 to 1800 m. Two subspecies, *T. m. microstictus* and *T. m. maculipectus*, have the limits of their range to the north and to the south of Hidalgo, respectively. Northern Hidalgo specimens are most likely referrable to *T. m. microstictus*.

Thryomanes bewickii murinus (Hartlaub)
Bewick's Wren

Specimens examined (2).—7 km. S Zacualtipan, 1750 m., 14 August 1973, 1 (sex not determined); 11 km. S, 1 km. W Zacualtipan, 1980 m., 15 August 1973, 1♂.

This species was common in the more arid region south of Zacualtipan.

Henicorhina leucophrys mexicana Nelson
Gray-breasted Wood-Wren

Specimens examined (3).—2 km. S, 10 km. W Tehuetlan, 1200 m., 29 July 1973, 1♂, 1♀; 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 31 July 1974, 1♂ (immature).

This secretive wren was never seen in the field; its presence was detected only on the rare occasions when individuals were caught in mist nets. Gray-breasted Wood-Wrens have been reported from the surrounding states of México, San Luis Potosí, Puebla, and Veracruz.

Salpinctes obsoletus obsoletus (Say)
Rock Wren

Specimen examined (1).—11 km. S, 1 km. W Zacualtipan, 1980 m., 14 August 1973, 1♂.

Rock Wrens were common in arid areas south of Zacualtipan.

Catherpes mexicanus mexicanus (Swainson)
Canyon Wren

Specimen examined (1).—7 km. S Zacualtipan, 1750 m., 10 August 1973, 1♂.

This was the only sighting of the species though Canyon Wrens were heard on several other occasions.

Family Mimidae

Melanotis caerulescens caerulescens (Swainson)
Blue Mockingbird

Specimens examined (5).—2 km. S, 10 km. W Tehuetlan, 1200 m., 25 July 1973, 1♂; 3 km. N, 1 km. E Tehuetlan, 850 m., 28 July 1973, 1♀; 1.5 km. N Tlanchinol 1600 m., 29 July 1973, 1♀; 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 3 August 1974, 1♂; 1 km. S, 2.5 km. E Calnali, 980 m., 11 August 1974, 1♂.

Blue Mockingbirds were numerous in the lower and middle elevations in humid tropical and cloud forest regions.

Mimus polyglottos leucopterus (Vigors)
Northern Mockingbird

Specimen examined (1).—5 km. S Metzquititlan, 1600 m., 4 August 1973, 1♂.

The Northern Mockingbird was common in open scrub and desert south of Metzquititlan.

Toxostoma curvirostre curvirostre (Swainson)
Curve-billed Thrasher

Specimens examined (2).—7 km. S Zacualtipan, 1750 m., 4 August 1973, 1♀; 11 km. S, 1 km. W Zacualtipan, 1980 m., 15 August 1973, 1♀.

This bird of the scrub and desert was seen commonly south of Zacualtipan and near Metzquititlan. Both specimens were molting heavily.

Family Turdidae

Turdus migratorius phillipsi Bangs
American Robin

Specimen examined (1).—7 km. S Zacualtipan, 1750 m., 5 August 1973, 1♂ (immature).

The American Robin was noted on only one occasion when an immature, with heavy spotting on the breast, was collected south of Zacualtipan in a pine forest.

Turdus assimilis assimilis Cabanis
White-throated Robin

Specimens examined (7).—1.5 km. N, 1 km. E Tlanchinol, 1600 m., 22-29 July 1973, 2 August 1974, 5♂, 1♀, 1 (in alcohol).

White-throated Robins were seen only at this locality, a cutover hillside with large, scattered, standing trees; here they were abundant. Many additional birds of this species were released from mist nets.

Turdus grayi (Bonaparte)
Clay-colored Robin

Specimens examined (17).—4 km. E San Felipe, Orizatlan, 500 m., 2-7 July 1972, 4 (in alcohol); 3 km. N, 1 km. E Tehuetlan, 850 m., 26 July - 1 August 1973, 1♂, 1♀ (immature), 1 (juvenile); 1 km. S, 7 km. W Tehuetlan, 900 m., 31 July 1973, 1♂; 2 km. S, 10 km. W Tehuetlan, 1200 m., 29 July 1973, 1♂; 2 km. S, 10 km. W Tehuetlan, 1200 m., 29 July 1973, 1♂; 1.5 km. N Tlanchinol, 1600 m., 29 July 1973, 1♀, 1♀ (immature); 7 km. S Zacualtipan, 1750 m., 18 August 1973, 1♀; 1 km. S, 2.5 km. E Calnali, 980 m., 8-10 August 1974, 1♀, 1♀ (immature), 2♂ (immature), 1 (sex not determined).

The Clay-colored Robin is extremely abundant in eastern Hidalgo, especially in lowland and foothill areas, but becomes less numerous at higher elevations. They were most abundant in and around coffee plantations and partially cleared forests.

Two subspecies, *T. g. grayi* and *T. g. tamaulipensis*, have been reported from Hidalgo (Miller *et al.*, 1957; Sutton and Burleigh, 1941). Given range and habitat preference, it is likely that eastern Hidalgo specimens are *T. g. grayi*, but all specimens need to be reexamined because intergradation may be occurring in this area.

Turdus infuscatus (Lafresnaye)*
Black Robin

Specimens examined (4).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 30 July 1974, 1♂; 1.5 km. N Tlanchinol, 1600 m., 30 July 1973, 1♂; 3 km. E Zacualtipan, 2100 m., 16 August 1973, 1♂; 7 km. S Zacualtipan, 1750 m., 17 August 1973, 1 (immature, sex not determined).

The Black Robin was found in the higher elevations of both the cloud forest and the pine forests but was not at all common in either area. All males were in breeding condition.

Catharus mexicanus mexicanus (Bonaparte)
Black-headed Nightingale-Thrush

Specimens examined (13).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 22-26 July 1973, 29 July - 3 August 1974, 4♂, 5♀, 2 (in alcohol); 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 29 July 1973, 1♂; 4 km. N Zacualtipan, 2500 m., 3 August 1973, 1♂.

Black-headed Nightingale-Thrushes were one of the most abundant species in the understory brush of the cloud forest. Near Tlanchinol, numerous birds of this species were recorded and released. Of the

specimens collected, many were in breeding condition; one female, collected on 29 July 1974, was carrying a fully formed egg ready to be laid.

Catharus frantzii omiltemensis Cabanis
Ruddy-capped Nightingale-Thrush

Specimens examined (6).—1.5 km. N, 1 km. E Tlanchinol, 1500 m., 1-4 August, 1974, 3♂, 1♀; 4 km. N Zacualtipan, 2500 m., 3 August 1973, 1♀(immature); 7 km. S Zacualtipan, 1750 m., 13 August 1973, 1♂.

This species was common in the higher elevations of the cloud forest and was taken in habitat similar to that of the Black-headed Nightingale-Thrush. The Ruddy-capped was more common at higher altitudes near Zacualtipan than the Black-headed Nightingale-Thrush; there, the former was found in heavy brush at the edge of pine forests.

Catharus aurantiirostris clarus Jouy
Orange-billed Nightingale-Thrush

Specimens examined (2).—1.5 km. N, 1 km. E Tlanchinol, 1600 m., 29 July 1973, 1 August 1974, 2♂.

This species was noted only on two occasions. Both specimens were collected in heavy undergrowth near a stream and were in breeding condition.

Myadestes obscurus obscurus Lafresnaye
Brown-backed Solitaire

Specimens examined (7).—2 km. S, 10 km. W Tehuetlan, 1200 m., 12 July 1972, 25 July 1973, 1♂, 1♀ (juvenile), 1 (in alcohol); 4 km. N Zacualtipan, 2500 m., 4 August 1973, 1♂; 3 km. S Zacualtipan, 1850 m., 19 August 1973, 1♂; 10 km. N Metzquititlan, 1750 m., 17 July 1972, 1 (in alcohol); 4 km. S Metzquititlan, 1700 m., 5 August 1973, 1♂.

The Brown-backed Solitaire was common at higher elevations. Its spectacular song dominated the cloud forest as it sang from high perches, often throughout the day.

Myadestes unicolor unicolor Sclater
Slate-colored Solitaire

Specimens examined (3).—2 km. S, 10 km. W Tehuetlan, 1200 m., 24 July 1973, 31 July 1974, 1♂, 1 (in alcohol); 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 29 July 1974, 1♀.

Slate-colored Solitaires, birds of lower elevations, were less common than the preceding species in the zone of overlap between Tehuetlan and Tlanchinol. The specimens taken were in breeding condition.

Sialia sialis guatemalae Ridgway
Eastern Bluebird

Specimens examined (4).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 30 July 1974, 1♂ (immature); 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 24 July 1973, 1♂; 7 km. S Zacualtipan, 1750 m., 4 August 1973, 1♀, 1♀ (immature).

Eastern Bluebirds usually were found in large clearings and open pastures with a few scattered trees.

Family Ptilogonatidae

Ptilogonys cinereus cinereus Swainson
Gray Silky-Flycatcher

Specimen examined (1).—1 km. S Molongo, 1750 m., 17 July 1972, 1♀.

The Gray Silky-Flycatcher was noted only once.

Family Vireonidae

Vireo huttoni mexicanus Ridgway
Hutton's Vireo

Specimens examined (2).—7 km. S Zacualtipan, 1750 m., 4-6 August 1973, 1♂, 1♀.

Hutton's Vireo was seen only in the pine forest south of Zacualtipan; there it was common.

Vireo solitarius (Wilson)
Solitary Vireo

Specimen examined (1).—7 km. S Zacualtipan, 1750 m., 4 August 1973, 1♂.

The Solitary Vireo was observed only once.

Vireo flavoviridis flavoviridis (Cassin)*
Yellow-green Vireo

Specimen examined (1).—1 km. N, 2 km. W Calnali, 980 m., 11 August 1974, 1♂.

This specimen represents the only record of the species for the state of Hidalgo.

Family Parulidae

Mniotilta varia (Linnaeus)
Black-and-white Warbler

Specimen examined (1).—7 km. S Zacualtipan, 1750 m., 14 August 1973, 1♂.

This species was noted only once.

Peucedramus taeniatus taeniatus (DuBus)
Olive Warbler

Specimens examined (2).—7 km. S Zacualtipan, 1750 m., 3-6 August 1973, 1♂, 1♀.

Olive Warblers were seen on several occasions in the pine forest near Zacualtipan.

Seiurus motacilla (Vieillot)*
Louisiana Waterthrush

Specimens examined (8).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 29 July - 4 August 1974, 3♂, 1♀; 1 km. S, 2.5 km. E Calnali, 980 m., 7 August 1974, 1♀; 7 km. S Zacualtipan, 1750 m., 9-10 August 1973, 1♂, 2♀.

The Louisiana Waterthrush is an early migrant in eastern México and has been reported in Chiapis as early as 21 July. The above specimens are the first recorded for Hidalgo.

Wilsonia canadensis (Linnaeus)*
Canada Warbler

Specimen examined (1).—1 km. S, 2.5 km. E Calnali, 980 m., 7 August 1974, 1♀.

The Canada Warbler was noted only once.

Myioborus picta picta (Swainson)
Painted Redstart

Specimens examined (4).—7 km. S Zacualtipan, 1750 m., 17 July 1972, 6-7 August 1973, 2♂, 1♀, 1 (in alcohol).

Painted Redstarts were common in the pine-oak forest near Zacualtipan.

Basileuterus culicivorus brasherii (Giraud)
Golden-crowned Warbler

Specimens examined (8).—2 km. S, 10 km. W Tehuetlan, 1200 m., 23 July - 1 August 1973, 2♂; 1 km. S, 2.5 km. W Calnali, 980 m., 7-9 August 1974, 4♂, 1♀, 1 (in alcohol).

The Golden-crowned Warbler was common at lower altitudes, particularly at Calnali. Two specimens from Calnali and the one taken from Tehuetlan on 1 August 1973 were molting heavily.

Basileuterus belli belli (Giraud)
Golden-browed Warbler

Specimens examined (9).—1.5 km. N, 3 km. E Tlanchinol 1500 m., 22 July 1973, 28 July - 5 August 1974, 2♂, 2♀, 1 (juvenile); 1.5 km. N, 1 km. E Tlanchinol,

1600 m., 29 July 1973, 2♂; 4 km. N Zacualtipan, 2500 m., 3 August 1973, 1♂, 1♂ (immature).

Golden-browed Warblers were abundant in cloud forest and pine-oak woodlands above 1400 m.

Basileuterus rufifrons jouyi Ridgway
Rufous-capped Warbler

Specimens examined (6).—5 km. WSW Tehuetlan, 850 m., 13 July 1972, 1♂; 1 km. S, 2 km. W Tehuetlan, 900 m., 1 August 1973, 1♀; 2 km. S, 10 km. W Tehuetlan, 1200 m., 13 July 1972, 1 August 1973, 1♂, 1 (in alcohol); 1 km. S, 2.5 km. E Calnali, 980 m., 9 August 1974, 1♂, 1 (in alcohol).

The Rufous-capped Warbler was found up to about 1300 m. altitude. It was most abundant, however, at lower altitudes, from 900 to 1200 m.

Family Icteridae

Molothrus aeneus aeneus (Wagler)
Bronzed Cowbird

Specimen examined (1).—2 km. S, 10 km. W Tehuetlan, 1200 m., 23 July 1973, 1♀.

This specimen was our only record of the species.

Cassidix mexicanus mexicanus (Gmelin)
Great-tailed Grackle

Specimens examined (2).—3 km. N, 1 km. E Tehuetlan, 850 m., 26-27 July 1973, 1♂, 1♀.

Great-tailed Grackles were common at Huejutla and Tehuetlan but were not found at higher elevations.

Dives dives dives Deppe*
Melodious Blackbird

Specimens examined (5).—3 km. N, 1 km. E Tehuetlan, 850 m., 26-31 July 1973, 2♂, 1♀; 1 km. S, 2.5 km. E Calnali, 980 m., 8-10 August 1974, 1♂, 1♀.

This species was commonly seen and heard at Tehuetlan and Calnali but was not found at higher altitudes. It is reported from all surrounding states.

Icterus parisorum Bonaparte
Scott's Oriole

Specimens examined (2).—11 km. S, 1 km. W Zacualtipan, 1980 m., 15 August 1973, 1♂, 1♀.

Scott's Oriole was seen regularly in the mesquite scrub and bush desert areas south of Zacualtipan.

Icterus wagleri wagleri Sclater
Black-vented Oriole

Specimens examined (2).—1 km. S Molongo, 1750 m., 17 July 1972, 1♂; 6 km. S Metzquititlan, 1600 m., 6 August 1973, 1♀.

This species was noted only on these two occasions.

Icterus graduacauda Lesson
Black-headed Oriole

Specimens examined (6).—2 km. S, 10 km. W Tehuetlan, 1200 m., 28 July 1973, 1♂, 1♀; 1 km. S, 2.5 km. E Calnali, 980 m., 7-11 August 1974, 3♂, 1♀.

The two specimens taken southwest of Tehuetlan were the only ones of this species seen other than at Calnali. At Calnali, Black-headed Orioles were common and seen and heard daily. Intergrades of two subspecies, *I. g. audubonii* and *I. g. graduacauda*, have been reported from Puebla and northern Veracruz, and Hidalgo is probably within this zone of intergradation.

Icterus gularis tamaulipensis Ridgway*
Altimira Oriole

Specimens examined (2).—3 km. N, 1 km. E Tehuetlan, 850 m., 26-27 July 1973, 1♂, 1♀.

The Altimira Oriole was seen only at our locality northeast of Tehuetlan, where it was common. Several active nests were found in large trees at the edge of coffee plantations. This species has been recorded for the surrounding states of San Luis Potosí, Veracruz, and Puebla.

Family Thraupidae

Euphonia hirundinacea Bonaparte*
Yellow-throated Euphonia

Specimens examined (2).—2 km. S, 10 km. W Tehuetlan, 1200 m., 28 July 1973, 1♀; 1 km. S, 2.5 km. E Calnali, 980 m., 10 August 1974, 1♂.

This species was recorded only twice and appears to be quite rare in eastern Hidalgo. It has been reported from the surrounding states of San Luis Potosí, Veracruz, and Puebla.

Thraupis abbas (W. Deppe)*
Yellow-winged Tanager

Specimen examined (1).—1 km. S, 2.5 km. E Calnali, 980 m., 10 August 1974, 1♀.

The Yellow-winged Tanager was noted only once. Previously, it has been reported from the surrounding states of San Luis Potosí, Veracruz, and Puebla.

Piranga flava hepatica (Swainson)
Hepatic Tanager

Specimen examined (1).—10 km. N Metzquititlan, 1750 m., 18 July 1972, 1♀.

This was our only record of the species.

Piranga bidentata sanguinolenta (Lafresnaye)
Stripe-backed Tanager

Specimens examined (4).—2 km. S, 10 km. W Tehuetlan, 1200 m., 23 July 1973, 1♂; 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 22 July 1973, 1♂; 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 29 July 1973, 2 August 1974, 1♂, 1♀.

Stripe-backed Tanagers were common in the cloud forest region between Tehuetlan and Tlanchinol. All specimens taken were in breeding condition.

Habia gutturalis salvini (Berlepsch)*
Red-throated Ant-Tanager

Specimens examined (2).—4 km. E San Felipe, Orizatlan, 500 m., 7 July 1972, 1♀; 3 km. N, 1 km. E Tehuetlan, 850 m., 27 July 1973, 1♀.

This species, reported from San Luis Potosí, Veracruz, and Puebla, was seen on only three occasions and appeared to be uncommon at lower elevations.

Chlorospingus opthalmicus opthalmicus (DuBus)
Common Bush-Tanager

Specimens examined (18).—2 km. S, 10 km. W Tehuetlan, 1200 m., 12 July 1972, 23 July - 1 August 1973, 3♂, 1 (in alcohol); 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 12 July 1972, 28-31 July 1974, 4♂, 4♀, 2 (in alcohol); 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 24-29 July 1973, 1♂, 1♀; 4 km. N Zacualtipan, 2500 m., 3 August 1973, 2♂.

The Common Bush-Tanager is the most abundant bird in the cloud forest. We found it down to about 1100 m. elevation in bush and thickets. Several of the specimens collected were in breeding condition in late July.

Family Fringillidae

Hesperiphona abeillei abeillei (Lesson)*
Hooded Grosbeak

Specimens examined (6).—1.5 km. N, 3 km. E Tlanchinol, 1500 m., 28 July - 3 August 1974, 1♂, 1♂ (immature), 1♀; 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 25-30 July 1973, 2 August 1974, 1♂, 2♀.

Hooded Grosbeaks were found only in the higher elevations of the cloud forest, where they were common and small flocks were seen daily.

Carpodacus mexicanus mexicanus (P.L.S. Müller)
House Finch

Specimens examined (5).—2 km. E Zacualtipan, 1900 m., 12 August 1973, 1♂; 11 km. S, 1 km. W Zacualtipan, 1980 m., 12-15 August 1973, 2♂; 6 km. S Metzquititlan, 1600 m., 6 August 1973, 1♀; 9 km. S, 2 km. W Metzquititlan, 1650 m., 4 August 1973, 1♀.

House Finches were seen commonly at higher altitudes, especially in the desert region south of Metzquititlan.

Spinus notatus notatus (DuBus)*
Black-headed Siskin

Specimens examined (4).—2 km. S, 10 km. W Tehuetlan, 1200 m., 22 July 1973, 1♂; 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 29-30 July 1974, 1♂, 1♀; 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 25 July 1973, 1♂.

The Black-headed Siskin was common east of Tlanchinol, where it was seen often perched on power lines or dead trees along the roadside. This species has been reported from all surrounding states.

Spinus psaltria psaltria (Say)
Dark-backed Goldfinch

Specimens examined (7).—2 km. S, 10 km. W Tehuetlan, 1200 m., 13 July 1972, 29 July 1973, 2♂; 7 km. S Zacualtipan, 1750 m., 4-14 August 1973, 2♂, 2♀; 11 km. S, 1 km. W Zacualtipan, 1980 m., 14 August 1973, 1♂.

Dark-backed Goldfinches were common in weedy, forest clearings and open forests.

Saltator atriceps atriceps (Lesson)*
Black-headed Saltator

Specimens examined (6).—3 km. N, 1 km. E Tehuetlan, 850 m., 26-31 July 1973, 3 August 1974, 2♂, 3♀; 1 km. S, 2.5 km. E Calnali, 980 m., 8 August 1974, 1♀.

At both of the above localities, the Black-headed Saltator was found in and around coffee groves but it was more common at Tehuetlan than at Calnali. This species has been taken in the surrounding states of San Luis Potosí, Veracruz, and Puebla.

Saltator coerulescens grandis (W. Deppe)*
Grayish Saltator

Specimens examined (2).—1 km. N, 2 km. W Calnali, 980 m., 11 August 1974, 1♂, 1♀.

Two specimens were taken in a mist net set into the brush along a stream adjacent to an open field.

Rhodothraupis celaeno (W. Deppe)*
Crimson-collared Grosbeak

Specimen examined (1).—2 km. S Huejutla, 600 m., 2 August 1973, 1♂.

This species was seen only once when a fresh roadkill was found just south of Huejutla, adjacent to a citrus grove. It is endemic to the north, Atlantic coastal region and has been recorded for San Luis Potosí, northeastern Puebla, Nuevo Leon, Tamaulipas, and northern Veracruz.

Pheucticus melanocephalus melanocephalus (Swainson)
Black-headed Grosbeak

Specimens examined (3).—7 km. S Zacualtipan, 1750 m., 4 August 1973, 1♀; 11 km. S, 1 km. W Zacualtipan, 1980 m., 13-14 August 1973, 2♂, 1♀.

Black-headed Grosbeaks are common in the pine-oak forests south of Zacualtipan.

Guiraca caerulea eurhyncha Coues
Blue Grosbeak

Specimens examined (2).—1.5 km. N, 2 km. W Calnali, 980 m., 11 August 1974, 1♂; 8 km. S, 1 km. W Metzquititlan, 1600 m., 4 August 1973, 1♂.

The Blue Grosbeak was noted only occasionally and nowhere was it seen regularly.

Tiaris olivacea pusilla Swainson
Yellow-faced Grassquit

Specimens examined (4).—10 km. WSW Tehuetlan, 1200 m., 13 July 1972, 1♂; 1.5 km. N Tlanchinol, 1650 m., 24 July 1973, 1♀; 1 km. N, 1 km. W Calnali, 960 m., 9 August 1974, 1♂; 1 km. S, 2.5 km. E Calnali, 980 m., 7 August 1974, 1♂ (immature).

Yellow-faced Grassquits were uncommon and only occasionally seen.

Sporophila torqueola morelleti (Bonaparte)
White-collared Seedeater

Specimens examined (8).—2 km. S, 10 km. W Tehuetlan, 1200 m., 14 July 1972, 22 July 1973, 1♂, 1♂ (immature); 1.5 km. N, 1 km. E Tlanchinol, 1600 m., 25 July 1973, 1-3 August 1974, 1♂, 3♀; 1 km. N, 2 km. W Calnali, 980 m., 8-11 August 1974, 1♂, 1♀.

The White-collared Seedeater was common in brushy and weedy fields and forest clearings.

Atlapetes pileatus pileatus Wagler
Rufous-capped Brush-Finch

Specimen examined (1).—7 km. S Zacualtipan, 1750 m., 13 August 1973, 1♂.

This species was noted only once.

Atlapetes albinucha (Lafresnaye and d'Orbigny)*
White-naped Brush-Finch

Specimens examined (5).—2 km. S, 10 km. W Tehuetlan, 1200 m., 12 July 1972, 22 July - 1 August 1973, 1♂, 1♀, 1 (in alcohol); 1.5 km. N, 1 km E Tlanchinol, 1600 m., 2 August 1974, 1♀; 1 km. N, 2 km. W Calnali, 980 m., 11 August 1974, 1♀.

These finches were common in brushy woodland edges and in areas of dense second-growth timber. This is the first record of the species for Hidalgo and represents the northernmost specimen records. Miller *et al.* (1957) reported sight records for San Luis Potosí, near Xilitla.

Atlapetes brunneinucha brunneinucha (Lafresnaye)
Chestnut-capped Brush-Finch

Specimens examined (13).—2 km. S, 10 km. W Tehuetlan, 1200 m., 23 July 1973, 1♂, 1♀; 1.5 km. N, 3 km. E Tlanchinol, 1500 m., 13 July 1972, 24 July 1973, 29-31 July 1974, 5♂, 4♀; 1 km. S, 2.5 km. E Calnali, 980 m., 10 August 1974, 1♂, 1♀.

This species was found as low as 980 m. but was most abundant in undergrowth of mature cloud forest east of Tlanchinol (1500 to 1600 m.). In the summer of 1974, out of a total of 88 birds captured near Tlanchinol, 28 were Chestnut-capped Brush-Finches. Most were netted in undergrowth of mature forest.

Arremonops rufivirgatus ridgwayi Sutton and Burleigh
Olive Sparrow

Specimens examined (6).—4 km. E San Felipe, Orizatlan, 500 m., 7 July 1972, 1 (in alcohol); 3 km. N, 1 km. E Tehuetlan, 850 m., 25-28 July 1973, 1♂, 1♀; 1.5 km. N Tlanchinol, 1600 m., 23 July 1973, 1♂; 1 km. S, 2.5 km. E Calnali, 980 m., 9 August 1974, 1♂, 1♀.

The Olive Sparrow was found throughout the lower and middle altitudes in heavy brush.

Pipilo erythrophthalmus (Linnaeus)
Rufous-sided Towhee

Specimens examined (2).—2 km. E Zacualtipan, 1900 m., 12 August 1973, 1♂; 7 km. S Zacualtipan, 1750 m., 2 August 1973, 1♂.

The above specimens are probably *P. e. maculatus*; however, *maculatus* is known to intergrade with *P. e. orientalis* near Jacala.

Pipilo fuscus campoi Moore
Brown Towhee

Specimens examined (2).—7 km. S Zacualtipan, 1750 m., 4 August 1973, 1♂; 11 km. S Zacualtipan, 1980 m., 15 August 1973, 1♀.

Brown Towhees were common in the desert areas south of Zacualtipan.

Aimophila rufescens pyrgitoides (Lafresnaye)*
Rusty Sparrow

Specimens examined (8).—2 km. S, 10 km. W Tehuetlan, 1200 m., 12 July 1972, 22-23 July 1973, 5♂, 1♂ (juvenile); 1 km. N, 2 km. W Calnali, 980 m., 10 August 1974, 1♂, 1♀.

The Rusty Sparrow was found in tangled thickets only at the above two localities. Four males from Tehuetlan were in breeding condition; the juvenile was brought in by a native boy and probably had been taken from a nest.

Junco phaeonotus phaeonotus Wagler
Yellow-eyed Junco

Specimens examined (6).—7 km. S Zacualtipan, 1750 m., 3-10 August 1973, 3♂, 1♂ (immature), 2♀.

This species was abundant in the open pine forest south of Zacualtipan.

Spizella passerina mexicana Nelson
Chipping Sparrow

Specimens examined (2).—1.5 km. N Tlanchinol, 1600 m., 24 July 1973, 1♀; 7 km. S Zacualtipan, 1750 m., 3 August 1973, 1♀.

Chipping Sparrows were noted only at these localities and were most common in the drier pine forests near Zacualtipan.

Acknowledgments

We are grateful to Dr. Dilford C. Carter for initiating field studies in Hidalgo and inviting the senior author to participate. We are indebted to the many students who contributed to the success of the summer field courses and especially to Elizabeth A. Davenport, David K. Deane, R. Laurie Hendricksen, and Connie Peterson, who accompanied the senior author on the most successful expedition in the summer of 1974.

Special thanks are due, Drs. Hugh H. Genoways and Michael K. Rylander, The Museum, Texas Tech University, and to Dr. Keith A. Arnold, Texas A&M University, who identified a number of specimens, provided many helpful suggestions in the preparation of the manuscript, and critically read the completed manuscript.

The Museum of Texas Tech University sponsored this study.

Literature Cited

Amadon, D., and A. R. Phillips. 1947. Notes on Mexican birds. Auk, 64:576-581.

Blake, E. R. 1953. Birds of Mexico. Univ. of Chicago Press, Chicago, xxix + 1-644.

Davis, L. I. 1972. A Field Guide to the Birds of Mexico and Central America. Univ. Texas Press, Austin, xv + 282 pp.

Dickermann, R. W. 1963. The song sparrows of the Mexican Plateau. Minnesota Mus. Nat. Hist., Univ. Minnesota Occas. Papers, 9:1-7.

Edwards, E. P. 1972. A field guide to the birds of Mexico. E. P. Edwards, Sweet Briar, Virginia, vi + 300 pp.

Friedmann, H., L. Griscom, and R. T. Moore. 1950. Distributional check-list of the birds of Mexico. Pacific Coast Avifauna No. 29, Cooper Ornithological Club, Berkeley, California, 202 pp.

Goldman, E. A., and R. T. Moore. 1946. The biotic provinces of Mexico. J. Mamm., 26:347-360.

Lowery, G. H., Jr., and W. W. Dalquest. 1951. Birds from the state of Veracruz, Mexico. Univ. Kansas Publ. Mus. Nat. Hist., 3:533-649.

Miller, A. H., H. Friedmann, L. Griscom, and R. T. Moore. 1957. Distributional check-list of the birds of Mexico. Part 2. Pacific Coast Avifauna No. 33, Cooper Ornithological Society, Berkeley, California, 436 pp.

Moore, R. T. 1941. New form of Toxostoma from Hidalgo. Proc. Biol. Soc. Washington, 54:149.

———. 1949. A new race of *Pipilo fuscus* from Mexico. Proc. Biol. Soc. Washington, 62:101-102.

Peterson, R. T., and E. L. Chalif. 1973. A field guide to Mexican birds. Houghton Mifflin Co., Boston, xx + 1-298.

Sutton, G. M. 1957. Mexican birds: first impressions. Univ. Oklahoma Press, Norman, xv + 282 pp.

———. 1972. At a bend in a Mexican river. Paul S. Eriksson, New York, xvii + 184 pp.

Sutton, G. M., and T. D. Burleigh. 1940*a*. A new warbling vireo from Hidalgo. Auk, 57:398-400.

———. 1940*b*. Birds of Tamazunchale, San Luis Potosí. Wilson Bull., 52:221-233.

———. 1940*c*. Birds of Valles, San Luis Potosí, Mexico. Condor, 42:259-262.

———. 1940*d*. Birds of Las Vigas, Veracruz. Auk, 57:234-243.

———. 1941. Birds recorded in the state of Hidalgo, Mexico, by the Semple Expedition of 1939. Ann. Carnegie Mus., 28:169-186.

———. 1942. Some birds recorded in the Federal District and states of Puebla and Mexico by the 1939 Semple Expedition. Auk, 59:418-423.

Urban, E. K. 1959. Birds from Coahuila, Mexico. Univ. Kansas Publ. Mus. Nat. Hist., 11:443-516.

Webster, F. S., Jr. 1974. Resident birds of the Gomez Farias region, Tamaulipas, Mexico. Amer. Birds, 28:3-10.

Webster, J. D., and R. T. Orr. 1952. Notes on Mexican birds from the states of Durango and Zacatecas. Condor, 54:309-313.

Addresses of authors: A. D. Bjelland, *Carnegie Museum of Natural History, 4400 Forbes Ave., Pittsburgh, Pennsylvania 15213*; J. C. Ray, *Brazosport College, 500 College Dr., Lake Jackson, Texas 77566.* *Received 9 August, accepted 12 November 1976.*

S-NH-Lubbock

MUS. COMP. ZOOL.
LIBRARY
NOV 15 1977
HARVARD
UNIVERSITY,

OCCASIONAL PAPERS
THE MUSEUM
TEXAS TECH UNIVERSITY

NUMBER 47 11 NOVEMBER 1977

ANNOTATED CHECKLIST OF THE BATS OF MEXICO AND CENTRAL AMERICA

J. Knox Jones, Jr., Pierre Swanepoel, and Dilford C. Carter

Studies of the Chiroptera, particularly Neotropical species, have been an important element of zoological inquiry in México and Central America for many years. With the increasing emphasis in the last decade or so on field-based studies involving ecology, ethology, competition, adaptive strategies, and the like of bats, we felt a synopsis of the species inhabiting Middle America, a term here used to encompass both México and Central America, would prove useful to investigators in the field. Accordingly, we offer the present annoted checklist to meet that need.

As a point of departure in preparing the checklist, we used the compendium of Hall and Kelson (1959). A host of publications dealing with Middle American bats since has appeared, including some containing descriptions of new taxa, and we have attempted to consult all the relevant literature in compiling information presented on the following pages. Systematic revisions and reviews generally are cited in accounts of the taxa to which they pertain. Inclusive faunal works issued since 1959 include Alvarez (1963) on Tamaulipas, Anderson (1972) on Chihuahua, Baker and Greer (1962) on Durango, Burt and Stirton (1961) on El Salvador, Goodwin (1969) on Oaxaca, Hall and Dalquest (1963) on Veracruz, Handley (1966) on Panamá, and Huey (1964) on Baja California.

With specific reference to bats, Villa-R. (1967) summarized material known to that time for the whole of México. Subsequent papers on chiropterans treating major geographic units in that country are those on Jalisco (Watkins *et al.*, 1972), Sinaloa (Jones *et al.*, 1972), the Yucatán Peninsula (Jones *et al.*, 1973; Birney *et al.*, 1974), and